



MINISTRY OF HUMAN RESOURCES MALAYSIA  
DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH



# *Guidelines*

On Occupational  
Safety And Health  
In Fishing and  
Agriculture Operation





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# GUIDELINES ON OCCUPATIONAL SAFETY AND HEALTH IN FISHING AND AQUACULTURE OPERATION

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## INTRODUCTION

These guidelines are intended to assist the fishing industry in preventing accidents, incidents, injury, disease and death. They apply to all fishing operations in Malaysia. The *Occupational Safety and Health Act* (1994) is applicable to fishing operations in Malaysia. The objectives of the *Act* are to:

- (a) secure the safety and health of persons at work against risks to safety or health arising out of the activities of persons at work;
- (b) protect persons at a place of work, other than persons at work, against risks to safety or health arising out of the activities of persons at work;
- (c) promote an occupational environment for persons at work that is adapted to their physiological and psychological needs;
- (d) provide the means whereby the associated occupational safety and health legislation may be progressively replaced by a system of regulations and approved industry codes of practice operating in combination with the provisions of the *Act* designed to maintain or improve the standards of safety and health.

These guidelines are divided into four sections: definitions, duties and responsibilities, general requirements and fishery-specific requirements. Not all of these guidelines will apply to all vessels. Vessel owners, masters and crewmembers are encouraged to review the entire document and to implement those guidelines that apply to their operations.

Within these guidelines, where the word *must* is used, it means that section of the guidelines is contained within the *Occupational Safety and Health Act* (1994) and is a legal requirement.

In the event of any conflict or inconsistency between these guidelines and the provisions of the *Act* or any other written law pertaining to occupational safety and health, the provisions of the *Act* and those laws shall prevail.

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## 1. DEFINITIONS

In these guidelines,

- “*crewmember*” means any person working on a fishing vessel.
- “*employee*” includes all crewmembers of fishing vessels except the vessel owner or master.
- “*employer*” means the owner or master of a fishing vessel for which there is crew and to whom the *Act* applies as if the crew were employees.
- “*fish*” means any aquatic animal or plant life, sedentary or not, and includes all species of finfish, crustacea, mollusca, aquatic mammals, or their eggs or spawn, fry, fingerling, spat or young, but does not include any species of otters, turtles or their eggs.
- “*fishing*”
- (a) the catching, taking or killing of fish by any method;
  - (b) the attempted catching, taking or killing of fish;
  - (c) engaging in any activity which can reasonably be expected to result in the catching, taking or killing of fish; or
  - (d) any operation in support of, or in preparation for, any activity described in paragraph (a), (b) or (c) of this definition.
- “*fishing operation*” includes all crew, gear, equipment and vessels associated with the undertaking of a fishery.
- “*fishing vessel*” “fishing vessel” means any boat, craft, ship or other vessel which is used for, equipped to be used for, or of a type used for:
- (a) fishing; (aa) aquaculture; or
  - (b) aiding or assisting any other boat, craft, ship or other vessel in the performance of any activity related to fishing, including any of the activities of preparation, processing, refrigeration, storage, supply or transportation of fish.

<i>“lifejacket”</i>	means a device that, when worn correctly, will turn the wearer face-up when in the water and that will keep the wearer in this position.
<i>“master”</i>	in relation to a fishing vessel, includes every person (except a pilot or port officer as defined in section 2 of the Merchant Shipping Ordinance 1952) having for the time being command or charge of the vessel, or lawfully acting as the master thereof.
<i>“owner”</i>	in relation to a fishing vessel, means any person or body of persons, whether corporate or unincorporate, by whom the vessel is owned and includes any charterer, subcharterer, lessee or sub-lessee of the vessel.
<i>“personal floatation device”</i>	means a device that, when worn correctly will support a conscious person in an upright or backward-leaning position; however, such a device is not designed to turn a person from a face-down to a face-up position in the water.
<i>“practicable”</i>	means practicable having regard to: (a) the severity of the hazard or risk in question; (b) the state of knowledge about the hazard or risk and any way of removing or mitigating the hazard or risk; (c) the availability and suitability of ways to remove or mitigate the hazard or risk; and (d) the cost of removing or mitigating the hazard or risk.
<i>“self-employed person”</i>	means an individual who works for gain or reward otherwise than under a contract of service, whether or not he himself employs others, but does not include co-adventurers.
<i>“work”</i>	means work as an employee or as a self-employed person.

## **2.0 DUTIES AND RESPONSIBILITIES**

### **2.1 Owner responsibilities**

Every fishing vessel owner must:

- (a) provide a seaworthy vessel;
- (b) ensure the vessel is constructed in conformance with applicable standards, or where no standards apply, in conformance with good vessel design, engineering and construction practice;
- (c) ensure all machinery and equipment on board the fishing vessel is capable of safely performing the functions for which it is used;
- (d) provide personal protective equipment required;
- (e) ensure that major modifications to the fishing vessel do not adversely affect the stability of the vessel;
- (f) where there is no master, carry out, as far as practicable, the duties and responsibilities of the master;
- (g) promote safe working practices.
- (h) ensure that the nearest office of the Department of Occupational Safety and Health is notified of any accident, dangerous occurrence, occupational poisoning or occupational disease that has occurred or is likely to occur at the place of work.

### **2.2 Master responsibilities**

Every fishing vessel master must:

- (a) maintain the fishing vessel in such a condition as to not endanger crew safety and health;
- (b) conduct operations to ensure the safety and health, so far as is practicable, of self, crew and other persons;
- (c) provide information, instruction, training and supervision to crewmembers as is necessary to ensure, so far as is practicable, the safety and health of self, crew and other persons;
- (d) report to the owner of the fishing vessel all injuries that require medical aid and record all injuries in the vessel log book;

- (e) investigate any accident that resulted in a crewmember requiring medical treatment;
- (f) ensure that action is taken, without delay, to correct an unsafe or harmful condition or situation observed or reported;
- (g) ensure the crew has adequate rest, such that fatigue does not create a hazard;
- (h) ensure that machinery and equipment is maintained and functions safely and that any replacement equipment is appropriate for its intended use.

### **2.3 Crewmember responsibilities**

Every crewmember must:

- (a) make use of all safeguards, safety devices and safety appliances;
- (b) take reasonable care for the safety and health of self and of other persons who may be affected by the crewmember's acts or omissions at work;
- (c) co-operate with the owner, master and other crew in the discharge of their duties;
- (d) not engage in work while physically or mentally impaired, including impairment due to fatigue;
- (e) wear or use any protective equipment or clothing required to prevent injury or disease;
- (f) report any injury or disease to the master immediately;
- (g) comply with occupational safety and health instruction or measures instituted by the owner or master;
- (h) report to the master or owner, as appropriate, any unsafe condition, any defect in equipment or devices, or any other hazard that the crewmember considers is likely to endanger the crewmember or any other person.

### **2.4 General duty**

2.4.1 Every owner and master must conduct their undertaking in such a manner as to ensure, so far as is practicable, that they, their crew and other persons who are not their employees but who may be affected by their undertaking, are not exposed to risks to their safety or health.

2.4.2 Despite the absence of a specific requirement under law, all work must be carried out without undue risk of injury or occupational disease to any person.

## **2.5 New employees**

Vessel owners and masters engaging new employees are to ensure that these crewmembers are properly instructed in the hazards of their work and that they are properly supervised in the carrying out of that work.

## **2.6 Duty to employees of other employers**

Every owner and master must give to persons who are not their employees information on their undertakings that might affect their safety or health.

## **2.7 Prohibition to act against employees carrying out duties under the Act**

2.7.1 The owner or master must not dismiss an employee, injure an employee in their employment, or detrimentally alter an employee's position by reason only that the employee:

- (a) makes a complaint about a matter that they consider is not safe or is a risk to health;
- (b) is a member of a safety and health committee established pursuant to the *Act*;  
or
- (c) exercises any of their functions as a member of the safety and health committee.

2.7.2 A trade union must not take any action against any of its members who, being a crewmember, carries out (a) to (c) above.

## **3.0 SAFETY AND HEALTH PROGRAM REQUIREMENTS**

### **3.1 Safety policy requirement**

3.1.1 Every master with more than 5 employees and every self-employed person must prepare a written safety and health policy statement. The policy statement must include:

- (a) a general policy with respect to the safety and health of employees at the workplace;
- (b) a description of the organization and arrangements for carrying out the policy;
- (c) a plan for it to be revised as often as appropriate.

3.1.2 The master must ensure that the safety and health policy, and any revision of it, is brought to the notice of all of their employees.

### **3.2 Safety and health programs in operations with under 40 employees**

In operations with fewer than 40 employees, the master is to initiate and maintain regular monthly meetings with employees for discussion of safety and health matters. The meetings are to be directed to matters concerning the correction of unsafe conditions and practices and the maintenance of co-operative interest in the safety and health of the workforce. A record of each meeting is to be kept in the vessel log.

### **3.3 Safety and health program**

An occupational safety and health program as outlined below is to be initiated and maintained by each employer having a workforce of 40\* or more employees.

*\* The total number of workers is calculated by counting all workers, fishers and shore based, employed by the company.*

The occupational safety and health program is to be written and is to be designed to prevent injuries and occupational diseases. Without limiting the generality of the foregoing, the program is to include:

- (a) a statement of the employer's aims and the responsibilities of the employer, supervisors and employees, including:
  - (i) a general policy with respect to the safety and health of employees at the workplace;
  - (ii) a description of the organization and arrangements for carrying out the policy;
  - (iii) a plan for the revision, as appropriate, of the statement or policy;

- (b) provision for the regular inspection of premises, vessel, plant and substance, including equipment, work methods and work practices, at appropriate intervals, to ensure that prompt action is undertaken to correct any hazardous conditions found;
- (c) appropriate written instructions, available for reference by all employees, to supplement the requirements of the *Act* and provide written direction where required;
- (d) maintenance of records and statistics, including inspection reports, incident investigations, and regular calculation of injury rates;
- (e) provision for conducting periodic management meetings that include the review of safety and health activities and incident trends, and for the determination of necessary courses of action;
- (f) provision for the prompt investigation of incidents to determine the action necessary to prevent their recurrence;
- (g) provision for the instruction, training and supervision of employees in the safe performance of their work;
- (h) provision for a safety committee;
- (i) provision for the supply of adequate first aid equipment and service;
- (j) provision for the supply of adequate personal protective equipment and its maintenance;
- (k) provision for the safe transport, handling, use and disposal of harmful chemicals and substances;
- (l) provision for annual review of the function and adequacy of the written program.

## **4.0 VESSEL SAFETY REPRESENTATIVE**

### **4.1 Provision for safety and health representative**

Each vessel is to appoint a crew safety representative. The role of the Crew Safety Representative is to carry out the duties, as set out in section 5.2 (a) - (d). In cases where a vessel has 40 or more workers, this requirement will be replaced by a safety and health committee on the vessel.

## **5.0 SAFETY AND HEALTH COMMITTEE**

### **5.1 Safety and health committee**

At every workplace where 40\* or more persons are employed, the employer must establish a safety and health committee.

*\* The total number of workers is calculated by counting all workers, fishers and shore based, employed by the company*

### **5.2 Function of safety and health committee or representative**

5.2.1 Employers will consult the safety and health committee, or representative, with a view to the making and maintenance of arrangements that will enable the employer and the employees to co-operate effectively in promoting and developing measures to ensure the safety and health at the workplace of the employees, and in checking the effectiveness of such measures.

The safety and health committee or representative at a workplace will:

- (a) keep under review the measures taken to ensure the safety and health of persons at the workplace;
- (b) investigate any matter at the workplace:
  - (i) that a member of the committee or a person employed thereat considers is not safe or is a risk to health; and
  - (ii) that has been brought to the attention of the employer;
- (c) attempt to resolve any matter referred to in paragraph (b) and, if unable to do so, request the Director General, Department of Occupational Safety and Health, to undertake an inspection of the workplace for that purpose; and
- (d) have such other functions as may be prescribed.

## **6.0 INCIDENT NOTIFICATION AND INVESTIGATION**

### **6.1 Notification of accident, dangerous occurrence, occupational poisoning or occupational disease**

An owner or master, as appropriate, must notify the nearest office of the Department of Occupational Safety and Health of any accident, dangerous occurrence, occupational poisoning or occupational disease that has occurred or is likely to occur at the place of work.

Notification is required whenever any of the following occurs:

- (a) loss of life to any person;
- (b) bodily injury to any person so that the person is prevented from following their normal occupation for more than 4 days; or
- (c) serious damage to machinery or other property, or any dangerous occurrence.

A dangerous occurrence includes:

- (a) bursting of a revolving vessel, wheel, grindstone or grinding wheel moved by mechanical power;
- (b) collapse or failure of a crane, derrick, winch, hoist, piling frame or other appliance used in raising or lowering persons or goods, or any part thereof (except breakage of chain or rope slings), or the overturning of a crane;
- (c) explosion or fire or failure of structure affecting the safety or strength of any room or place in which persons are employed, or of any machinery or plant contained therein;
- (d) sinking of a watercraft occupied by employees.

See Appendix 1 for a list of DOSH offices.

### **6.2 Employer investigations**

- 6.2.1 An owner or master, as appropriate, is to immediately undertake an investigation into the cause of any accident or incident that resulted in an injury to an employee requiring medical treatment.

6.2.2 An investigation is also required where the incident did not involve injury to an employee, or involved only minor injury that did not require medical treatment, but had a potential for causing serious injury.

### **6.3 Investigation process**

An investigation is to be carried out by persons knowledgeable about the type of work involved. As far as practicable, the investigation is to:

- (a) determine the cause or causes of the accident/incident,
- (b) identify the unsafe conditions, acts or procedures that contributed to the accident/incident, and
- (c) where unsafe conditions, acts or procedures are identified, recommend corrective action to prevent similar accidents/incidents from occurring.

### **6.4 Investigation report**

Investigation reports are to include the following information:

- (a) the date, time and place of the accident/incident,
- (b) the names and job titles of all persons injured in the incident,
- (c) the names of all witnesses,
- (d) a description of the incident,
- (e) an outline of the sequence of events that preceded the incident,
- (f) the identification of unsafe conditions, acts or procedures that contributed in any manner to the incident,
- (g) the recommended corrective actions required to prevent similar occurrences, and
- (h) the names of the persons involved in the incident investigation.

### **6.5 Follow-up action**

6.5.1 The owner or master, as appropriate, is to undertake, without undue delay, any corrective action required to prevent recurrence of similar accidents/incidents.

6.5.2 The employer is also to provide a copy of the investigation report to the safety and health committee or representative, as applicable, and forward a copy to the nearest DOSH office.

## **7.0 GENERAL REQUIREMENTS**

### **7.1 Safe passage**

The master is to ensure that the fishing vessel is capable of safely making passage. This is to include consideration of maintaining the vessel in a seaworthy condition, vessel stability and current as well as forecast weather conditions.

### **7.2 Stability**

7.2.1 The master of a fishing vessel carrying fish or cargo is to establish safe procedures for the loading and offloading of fish, cargo and supplies.

7.2.2 Stowage of cargo and fishing gear including nets, spare otterboards, skiffs, fuel containers and supplies is to be done with due consideration for the added weight in the vessel and its effects on stability.

7.2.3 Adequate freeboard is to be maintained in all loading conditions.

7.2.4 Decks are to be arranged to allow shipped water to clear the deck immediately, including ensuring that freeing ports or scuppers are kept clear.

7.2.5 Deck openings and hatches are to be equipped with an effective means of securing them, and they are to be kept closed and secured when not required to be open.

7.2.6 Partially filled or slack tanks and holds are to be kept to a minimum.

### **7.3 Documentation**

The owner of every fishing vessel is to post information as the location of firefighting equipments, lifebuoys/lifejackets, emergency and radio equipment.

## **7.4 Instruction**

7.4.1 The master is to ensure that each crewmember is instructed in the precautions needed to protect their safety and health. Without limiting the foregoing, this is to include:

- (a) each crewmember's responsibilities for safety and health;
- (b) the location, limitations, safe use and inspection of deck equipment, rigging, navigation equipment and safety equipment including firefighting, radio equipment and personal protective equipment;
- (c) the identification of fishing equipment and its use, including safe work practices for the fishery in which the vessel is engaged;
- (d) safe anchoring procedures, and

7.4.2 The master is to ensure, as far as practicable, that all crewmembers, including new crewmembers, are able to apply the instruction required to protect the safety and health of the crewmember, other crewmembers and other persons.

## **7.5 Emergency procedures**

7.5.1 The master is to establish procedures and assign responsibilities to each crewmember to cover all emergencies, including: crewmember overboard, fire on board, collision, grounding, flooding of the vessel, abandoning the vessel, calling for help, loss of steering, malfunction of main engine, violence and piracy.

7.5.2 The master is to ensure that drills are conducted prior to the start of each fishing season, when there is a change of crew, and at intervals that ensure crewmembers are familiar with each established emergency procedure.

## **7.6 Crewmember overboard**

7.6.1 The master of a vessel is to ensure that there is suitable equipment on board and that procedures have been developed to enable prompt recovery of a crewmember overboard.

7.6.2 Every fishing vessel is to have effective means of protecting crewmembers from drowning and hypothermia. This may include personal flotation devices (PFDs), lifejackets and a buddy system to ensure immediate response to unforeseen emergencies.

## **7.7 Communication**

The master is to ensure that there is an effective means of communication between the master and all work areas of the vessel.

## **7.8 Sprain, strain and musculoskeletal injury prevention**

7.8.1 All work areas are to be arranged to minimize the likelihood of sprains, strains and musculoskeletal injuries.

7.8.2 The master is to ensure crewmembers are instructed in proper lifting techniques.

7.8.3 If there is a potential for injury to crewmembers from lifting large fish, a hoisting device is to be provided and used.

## **7.9 Vessel inspections**

The master is to ensure that inspections are carried out to ensure:

- (a) Rigging is maintained and inspected regularly to ensure that it is able to safely carry out the work for which it was designed;
- (b) Bilge strainers are routinely cleaned;
- (c) All davits are secured and have effective locking devices;
- (d) Personal protective equipment is maintained;
- (e) Vessel alarm and sensor systems are in working order;
- (f) Machinery is effectively guarded;
- (g) Safe work practices are used by crew;
- (h) Hatch cover seals and locking devices are maintained in good condition.
- (i) Navigation lights are working properly

### **7.10 Harmful substances**

The master is to ensure that appropriate labels, chemical safety data sheets (CSDS) and identification are provided for harmful chemicals and substances on board the fishing vessel and that crewmembers are properly instructed in the safe use, handling and storage of these products.

### **7.11 Access and egress**

7.11.1 Safe access and egress is to be provided between a fishing vessel and shore, from vessel to vessel, and between decks on the vessel (including the engine room, the wheelhouse and vessel holds).

7.11.2 Portable ladders are to be designed and used in a manner that provides safe access and egress. Portable ladders are to be firmly secured.

7.11.2 Ladders are to be maintained in safe condition and inspected prior to each use.

7.11.4 Fixed ladders are to have non-skid treads and non-skid material at their base and top.

### **7.12 Slipping and tripping hazards**

7.12.1 All work areas are to be kept clear of unnecessary obstructions, oil leaks, and fish slime or offal, and free of slipping and tripping hazards.

7.12.2 Decks are to have non-skid surfaces except in those locations where a smooth deck is required for handling fish.

7.12.3 Engine room work areas, floor plates, access ladders and other areas are to be maintained free of grease, oil and other products that could cause slips.

7.12.4 Tools, equipment and supplies are to be securely stowed when not in use.

7.12.5 When deck openings and hatches are required to be open for ventilation or other purposes, they are to be marked and guarded.

### **7.13 Personal protective equipment**

Crewmembers are to have available and use appropriate personal protective equipment when needed. Without limiting the generality of this, the following should be available:

- (a) appropriate gloves when exposed to risks of injury to the hands;
- (b) safety eyewear when there is hazard to the eyes from flying material;
- (c) appropriate clothing, including headgear, footwear and gloves, that provide adequate protection against cold when working in freezers;
- (d) hearing protection for crew working in noise-exposed areas, such as the engine room, where other methods of noise control cannot reduce the noise to acceptable levels;
- (e) personal flotation devices or lifejackets are to be worn when there is a risk of drowning. This does not apply if other acceptable safety measures are in place that will protect employees from the risk of drowning, or if the water is too shallow to allow the PFD or lifejacket to function effectively. Buoyancy equipment is to meet acceptable standards;
- (f) crewmembers working around rotating or moving equipment, or with running rope or wire, are to wear closely fitting clothing and avoid loose strings, straps and other material that could get caught up. As well, crewmembers are to avoid wearing rings or jewelry that could create a hazard.

### **7.14 First aid**

The owner of the fishing vessel is to ensure that the vessel is equipped with appropriate first aid equipment and supplies. The master is to ensure that a qualified first aid attendant is available and that first aid supplies are replenished as soon as practicable after use. Refer to Appendix 2 for a list of supplies and equipment requirements.

### **7.15 Protection from falling overboard**

Crewmembers are to be protected from falling overboard by means of personal fall protection or other effective means.

## **7.16 Guarding of equipment and machinery**

The owner of a fishing vessel is to ensure that, where practicable, moving parts of powered equipment and machinery are fitted with effective guards if such parts may pose a hazard to crewmembers.

## **7.17 De-energization**

The maintenance and repair of machinery or equipment is only to be carried out when the power source has been shut off, de-energized and effectively secured to prevent inadvertent startup. Where it is essential that equipment remain operational during maintenance, a procedure is to be established to prevent injury from contact with moving or energized parts and crewmembers are to be instructed in these procedures.

## **7.18 Equipment and machinery control devices**

- 7.18.1 Winches, drums, capstans and similar equipment or machinery on a fishing vessel are to have at least one master on/off control that is readily accessible on deck and clearly identified.
- 7.18.2 Where there is a hazard of entanglement in a net, a hold-to-run control device is required on the net reel or drum. Or, the operator is to remain at the controls at all times while the net reel or drum is moving. Hold-to-run controls are not to be bypassed or otherwise rendered ineffective.
- 7.18.3 Controls on drums, winches, haulers and other powered equipment or machinery are to be within easy reach of the operator.
- 7.18.4 Operators of winches, power blocks or other powered equipment or machinery are to stand by the controls at all times when the equipment is in operation.
- 7.18.5 Operators of powered equipment or machinery are to have a clear view of the equipment they are operating.

## **7.19 Braking devices**

Winches and drums capable of freewheeling are to have effective braking devices.

## **7.20 Winch Operations**

Winch operations are to have the following:

- (a) All operating controls clearly marked;
- (b) Safe winch operating procedures are to be established;
- (c) Winches are to be regularly inspected to identify wear and tear and other defects;
- (d) Adequate lighting for night operations;
- (e) All employees are to be trained and demonstrate competency prior to being allowed to operate a winch;
- (f) No employee is to use hands or feet to guide line, wire, chain, net or other material onto a winch;
- (g) Where practicable, a guide is to be used to guide material onto winches;
- (h) All winch drums, parts of mechanical transmission devices and nip points are to be effectively guarded;
- (i) Workers are not to step under or over lines being hauled by winches;
- (j) Loose clothing, jewelry, hair or other items that could be caught in lines hauled by the winch are not to be worn by employees operating winches.

## **7.21 Rigging**

7.21.1 Rigging includes all fiber ropes, wire ropes, chains, slings, attachments, connecting fittings and associated components.

7.21.2 Rigging and fittings are to only be used for the purposes for which they were designed. The load applied to any rigging or rigging assembly is not to exceed the working load limit.

- 7.21.3 A shackle-pin is to be secured against dislodgment.
- 7.21.4 A sheave must be correctly sized for the rope or wire, have a device to retain the rope and be removed from service if it has a damaged groove or flange.
- 7.21.5 At least 3 full wraps of rope must remain on winding drums when the line is under load.
- 7.21.6 Wire clips are to be installed and used as specified by the manufacturer.
- 7.21.7 The U-bolt part of a wire rope clip must be installed so that it bears on the unloaded end of the wire rope.
- 7.21.8 Wire rope is to be inspected according to manufacture's criteria and when it no longer meets manufacture criteria, be removed from service.
- 7.21.9 Makeshift fittings, hooks or other load bearing attachments for slings are not to be used unless the working load limit has been determined and certified by a professional engineer.
- 7.21.10 Chain used for hoisting or overhead lifting is to be used according to the specifications of the chain manufacturer for hoisting.
- 7.21.11 A chain sling that exceeds the maximum wear allowed by the manufacturer is to be removed from service.
- 7.21.12 All rigging components are to be regularly inspected to ensure they are in serviceable condition.

## **7.22 Confined spaces**

Crewmembers are not to enter confined spaces such as fuel tanks, double bottoms, cofferdams or similar void spaces unless safe work procedures have

been developed to address all known or potential hazards in the space. These should include testing the space to ensure adequate oxygen is present and that no harmful gas or vapour is present, a means for providing adequate ventilation and a means of monitoring the work. A safe means of rescuing crewmembers from confined spaces is also to be established.

*Refer to the Code of Practice on Confined Space for further information on confined space entry.*

## **7.23 Requirements for sensors and alarms**

7.23.1 Where practicable, the following sensors and alarms are to be installed:

- (a) An owner of a fishing vessel is to ensure that a heat sensor, connected to an alarm system, is installed above the galley stove and in the engine room.
- (b) The owner is to ensure that a water level sensor, connected to an alarm system, is installed in each machinery space bilge or at the lowest point of a series of connected spaces.
- (c) The owner is to ensure that main engines are fitted with low-oil-pressure and high-temperature sensors connected to an alarm system. This does not include outboard engines.
- (d) The owner is to ensure that a sensor and alarm system is installed to detect leaks of potentially explosive fuel used in engines or appliances.

## **7.24 Illumination**

All work areas on board a fishing vessel are to be sufficiently illuminated to enable work to be done safely.

## **7.25 Ventilation**

All crew spaces and enclosed work areas on fishing vessels are to be provided with an adequate supply of fresh air.

## **7.26 Cooking appliances**

- 7.26.1 Cooking appliances used on fishing vessels are to be installed and maintained in accordance with applicable standards.
- 7.26.2 Stove fuel supply tanks and lines are to be fitted with a shutoff valve at the tank. Stoves are to be secured to prevent movement, and to have sufficient clearance to permit the effective cleanup of flammable material.
- 7.26.3 Cooking appliances using fuels heavier than air should be used in well-ventilated areas and precautions should be in place to prevent gas build-up inside the vessel.

## **7.27 Night operations**

The master of a fishing vessel is to establish safe working procedures for operations during darkness and ensure that crewmembers are properly trained in night procedures.

## **8.0 FISHERY-SPECIFIC WORK PRACTICES**

### **8.1 Hand Jigging**

The master is to develop safe work procedures to include but not be limited to:

- (a) access, egress and safe work positioning;
- (b) hazards from large fish;
- (c) disengaging hooks from landed fish;
- (d) baiting operations.

### **8.2 Longlining**

#### **8.2.1 Setting and hauling procedures**

- 8.2.1.1 The master is to establish safe procedures for setting and hauling gear. These procedures should include provision for preparing gear, baiting and storing gear

(including tubs, hooks, anchors and floats), provision for preventing crew being snagged by hooks or other gear, and provision for hauling fish on deck safely (including safe lifting and hook removal).

- 8.2.1.2 Crew not needed in the immediate area of setting or hauling stations should stay clear of these areas during setting or hauling.

## **8.2.2 Knives**

Each hauling station is to be equipped with a knife capable of cutting the gear. Each crewmember at a setting or hauling station is to have a sheathed knife on their person for ready access.

## **8.2.3 Guarding**

Drums, auto baiting and automated systems using longlines with hooks attached are to be guarded or shielded to prevent crewmembers from inadvertently contacting hooks.

## **8.3 Gillnetting/Drift Fishing**

### **8.3.1 Drums**

Where a worker is exposed to entanglement when hauling a net, the owner is to ensure that the net hauling device is fitted with a hold-to-run control.

### **8.3.2 Hand setting**

- 8.3.2.1 When a gillnet is set by hand, it is to be done in a manner to avoid entanglement.
- 8.3.2.2 When hauling a net by hand, the vessel is to be positioned with due consideration to tide, wind and other factors to reduce the force needed to haul the net.

## **8.4 Purse Seining**

### **8.4.1 Ring securing devices**

8.4.1.1 The owner of a purse seine vessel is to ensure that ring securing and net securing devices are designed and constructed to ensure that crewmembers will not be endangered by their use.

8.4.1.2 The master of a purse seine vessel is to develop safe ring securing procedures that include: consideration of sea and tide conditions; crew coordination; communication; hauling the net; and hoisting, securing and safe stacking of rings.

### **8.4.2 Setting and hauling of nets**

8.4.2.1 The master is to ensure that procedures are established for safe setting and hauling of nets, including procedures to ensure that crewmembers are not:

- (a) Exposed to entanglement while setting or hauling the net;
- (b) At risk of falling objects while working near the power block;
- (c) At risk of running lines while pursuing the net;
- (d) At risk of injury from the rings when the rings come on-board;
- (e) Positioned or enter hazard areas while the net is being set.

8.4.2.2 Crewmembers are to stay clear of purse lines, pursuing blocks and purse winch heads with the purse line is being hauled.

8.4.2.3 When hauling the purse line with a capstan and coiling it on deck, where practicable, one crewmember is to haul the purse line and a second crewmember is to coil the purse line.

### **8.4.3 Brailing**

Where a brailer is employed, the master is to ensure that crewmembers are instructed in safe brailing procedures. Where applicable, these procedures are to include the following activities:

- (a) Safe securing of the corkline to the skiff or boom;
- (b) Tying off the web while drying up;
- (c) Staying clear of the brailer while brailing operations are occurring.

#### **8.4.4 Drying up**

- 8.4.4.1 The master is to establish a safe drying up procedure that includes: communication and coordination of activities of all crew, securing the net, hoisting fleets, and a means of jettisoning the set should the vessel become endangered from the weight of fish in the net or other unforeseen circumstances.
- 8.4.4.2 An effective means to cut the purse line or net securing mechanism is to be readily available should the need to jettison the set arise.

#### **8.4.5 Purse rings**

Purse rings on all seine nets are to be secured to the middle of the ring strap to prevent rings from falling when fleeting the net through the power block. Where this is not practicable, or effective, crewmembers at risk of injury from falling rings are to wear safety headgear.

#### **8.4.6 Power blocks**

- 8.4.6.1 Power block suspension rigging is to be of adequate strength for the loads imposed. The master is to ensure that power block suspension rigging is inspected frequently and maintained in safe condition.
- 8.4.6.2 Suspension lines are to be shackled to the power block. A power block is to be equipped with an effective safety line when suspended above the deck.

#### **8.4.7 Communication**

The master of a purse seine vessel is to ensure there is an effective means of communication between the vessel and the skiff during setting and towing operations. An effective means of communication is also to be established with the light ship. An extra signaling device is to be kept in the skiff in case the primary means of communication fails.

### **8.4.8 Skiff work**

- 8.4.8.1 Decks and floors of skiffs are to be maintained free of tripping and slipping hazards.
- 8.4.8.2 Rails and sides of skiffs are to be maintained free of protrusions that could snag the net.
- 8.4.8.2 Lines and equipment in skiffs are to be arranged to prevent slipping, tripping and entanglement.
- 8.4.8.3 When using flammable fuels in the skiff, all sources of ignition are to be kept a safe distance from the fuel storage area.
- 8.4.8.4 Mechanical parts of powered skiffs are to be designed, maintained and used in a manner to prevent injury to crew from moving parts and other hazards associated with the skiff's machinery.
- 8.4.8.5 Towposts and other towing devices are to be designed and installed to minimize the potential for capsizing.
- 8.4.8.6 Powered skiffs are to be operated in ways that eliminate the danger of capsizing from unexpected strain being imposed on the net.
- 8.4.8.7 The skiff is to have adequate illumination to carry out all skiff work safely.
- 8.4.8.8 When in the skiff during fishing operations, crewmembers are to wear personal flotation devices (PFDs) meeting acceptable standards.

### **8.4.9 Light Ship**

- 8.4.9.1 Light ships are required to comply with all applicable requirements of this guideline, including:

- (a) Establishing effective communication with the catcher vessel
- (b) Ensuring the light ship is equipped with first aid supplies and equipment
- (c) The light ship operator is qualified to operate the vessel
- (d) The light ship operator ensures there is adequate personal protective equipment, such as hearing protection, available to all crew that require the use of PPE.

#### **8.4.10 Fish Aggregation Devices**

When setting fish aggregation devices, safe work procedures are to be established and followed. Where possible anchor weights should be lowered after the fish aggregating device has been set out and all anchor line has been set out.

### **8.5 Trap fishing**

#### **8.5.1 Owner's responsibility**

Where practicable, the owner is not to use a suspended hauling device.

#### **8.5.2 Master's responsibilities**

8.5.2.1 The master is to ensure that the number of traps loaded on the vessel or the way the traps are loaded does not compromise the stability of the fishing vessel.

8.5.2.2 The master is to establish safe setting and hauling procedures, including the protection of crewmembers from entanglement when setting. This may include effective line management, crewmembers wearing a PFD, having a sheathed knife on their person or being tied off.

8.5.2.3 Traps are to be secured to prevent inadvertent swinging or other movement during setting and hauling.

## **8.6 Trawling**

### **8.6.1 Safe work procedures**

- 8.6.1.1 The master is to establish safe work procedures for shooting and hauling trawls as well as safe fleeting procedures.
- 8.6.1.2 During shooting and hauling, crewmembers are to stay clear of the hazard area unless specifically required to be in the area.
- 8.6.1.3 Crewmembers are to stay clear of bights of any lines, ropes or wires.
- 8.6.1.4 Crewmembers are to stay clear of warps, coiled on deck, while they are being set.
- 8.6.1.5 Where net reels are used to retrieve the trawl net, crewmembers are not to guide the trawl net onto the net reel with their hands.
- 8.6.1.6 When retrieving a trawl net with a net reel, the net reel operator is to remain at the net reel controls at all times.
- 8.6.1.7 When hooking up and unhooking trawl doors on the davits, crewmembers are to stay clear of pinch points and hazards from the unexpected movement of the doors.
- 8.6.1.8 Trawl doors and otter boards are to be secured to davits or secured on deck when not in use.
- 8.6.1.9 All trawl cod ends are to be equipped with splitting straps.
- 8.6.1.10 Fish boxes are to be secured to prevent inadvertent movement.
- 8.6.1.11 Inspect and maintain trawl rigging, including towing blocks, towing lines and warps, otterboards and associated rigging.

## **8.7 Diving**

### **8.7.1 Supervision of diving operations**

Where diving operations take place, a diving supervisor is to be appointed. Diving supervisors are responsible for the proper instruction of crewmembers under their direction and control, and for ensuring that diving operations are carried out without undue risk.

### **8.7.2 Diver medical certification**

Each diver is responsible for obtaining a current medical certification, from a physician knowledgeable and competent in diving medicine, before commencing diving operations.

### **8.7.3 Diving apparatus training**

Before diving begins, a diver is to be thoroughly trained in the theory and use of the diving apparatus that the diver will be using.

### **8.7.4 Dive procedures**

Every master is to ensure that a set of safe diving procedures for the diving operations are prepared and that the safe diving procedures are kept at the dive site, readily available to all crewmembers.

All scuba and surface supply diving is to be done within the limits specified in accepted dive tables.

### **8.7.5 Emergency assistance**

8.7.5.1 The master is to ensure that assistance can be rendered to divers at all times when diving operations are in progress, including in cases of emergency.

8.7.5.2 When diving is in progress, the dive site is to have the address and contact phone number of the nearest facilities with hyperbaric chambers capable of providing emergency treatment and the locations and phone numbers of the nearest hospital.

### **8.7.6 Scuba diving equipment**

Every scuba diver is to use all of the following equipment appropriate to the diving conditions: a scuba unit complete with a quick-release harness and a submersible pressure gauge; a face mask and swimming fins; a suitable knife; a depth gauge; an exposure suit, if needed; an inflatable buoyancy device; a weight belt with quick-release buckle; an underwater watch; and an underwater light (when night diving).

### **8.7.7 Diving site warning markers**

When any diving activity is taking place, warning devices indicating diving is in progress are to be displayed.

### **8.7.8 Surface Supply diving**

Surface supply diving operations are to meet the following requirements:

- (a) The owner is to ensure a suitable diving compressor is provided that is equipped with an appropriate air filtering and regulating system,
- (b) The master is to ensure the compressor filter is maintained so that clean respirable air is delivered to the divers,
- (c) The air intake for the compressor is to be positioned so that only clean air is drawn into the compressor. It is not to be positioned so that engine exhaust or other harmful contaminants can not enter the air intake system.

### **8.7.9 Free Diving**

No free diving is to be done where there is a risk of entrapment or entanglement such that the diver can not immediately surface unobstructed.

## **8.8 Lift Nets**

Safe work procedures are to be developed for lift net operations that address the following:

- (a) Net hoisting and setting,
- (b) Brailing
- (c) Boiling fish
- (d) Flammable fuel storage to ensure only working quantities of fuel or in the fish boiling area.

## 9.0 APPENDIX 1 - DOSH OFFICES

DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH (DOSH) OFFICES  
 DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH (HQ)  
 JABATAN KESELAMATAN DAN KESIHATAN PEKERJAAN MALAYSIA  
 KEMENTERIAN SUMBER MANUSIA, ARAS 2,3 DAN 4, BLOK D3, PARCELD  
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<p>Director          Department of Occupational Safety and Health          Tingkat 7, Wisma Tractors, Jalan SS16/1,          Subang Jaya, 75400 Selangor Darul Ehsan          Tel: 03-5638 0340 Fax: 03-5638 9159</p>	<p>Director          Department of Occupational Safety and Health          Federal Territory, Tingkat 17, Menara PERKESO          281, Jalan Ampang, 50534 Kuala Lumpur          Tel: 03-4257 6066 Fax: 03-4257 2991</p>
<p>Director          Department of Occupational Safety and Health          (Perak)          Tingkat 2, Bangunan Persekutuan,          Jalan Panglima Bukit Gantang Wahab          30000 Ipoh, Perak Darul Ridzuan          Tel : 05-254 9711 Fax: 05-255 5219</p>	<p>Director          Department of Occupational Safety and Health          (Penang)          Tingkat 17-18, MB Tower, 5050 Jalan PagarLuar          12000 Pulau Pinang          Tel: 04-332 2258 Fax: 04-323 7261</p>
<p>Director          Department of Occupational Safety and Health          (Johore)          Tingkat 3, Blok B, Wisma Persekutuan          Jalan Air Molek, 80534 Johor Bahru, Johor          Tel: 07-224 3076/224 093 Fax: 07-224 2667</p>	<p>Director          Department of Occupational Safety and Health          (Sarawak)          Tingkat 12, Bangunan Sultan Iskandar,          Jalan Simpang Tiga, 93300 Kuching, Sarawak          Tel: 082-242 257 Fax: 082-259 846</p>
<p>Director          Department of Occupational Safety and Health          (Sabah)          Lot No. D7-4, Tingkat 7 Blok D, Bangunan KWSP          49, Jalan Karamuning, 88534 Kota Kinabalu,          Sabah          Tel: 088-235 855 Fax: 088-233 367</p>	<p>Director          Department of Occupational Safety and Health          (Kedah/Perlis)          Tingkat 3, Wisma Persekutuan          Jalan Kampong Baru, 05334 Alor Setar          Kedah Darul Aman          Tel : 04-730 8081 Fax: 04-732 9659</p>
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## 9.0 10.0 APPENDIX 2 - FIRST AID SUPPLIES AND EQUIPMENT

	Box A with up to 10 persons	Box B with 11-50 persons	Box C with more than 50 persons
Contents of factory first-aid box or cupboard			
1 Small individual medicated or Unmedicated sterilized dressings, for fingers	6	12	24
2 Medical- sized individual medicated or Unmedicated sterilized dressings, for hands and feet	3	6	12
3 Large individual medicated or Unmedicated sterilized dressings, for Other injured parts	3	6	12
4 Assorted adhesive wound dressing	12	24	36
5 Triangular bandages	2	4	8
6 (i) Roller bandages, 1 inch (ii) Roller bandages, 2 inch	6 6	9 9	12 12
7 Adhesive plaster	“ A Sufficient supply “		
8 Absorbent sterilized cotton wools in ½ oz. packets or Cotton- wool strip contained in cotton-wool dispenser	6	6	6
9 Suitable splints and wool or other material for padding	“ A Sufficient supply “		
10 Approved eye ointment or eye drops	“ A Sufficient supply “		
11 Individual sterilized eye pads in separate sealed packets	2	4	8
12 Rubber or pressure bandage	1	1	1
13 A two per cent alcoholic solution of Iodine, or a one per cent aqueous solution of gentian violet in a stoppered 2 oz. bottle A bottle of sal volatile with the dose and mode of administration indicated on the label	1 1	1 1	1 1
14 Blunt-nosed surgical scissors	1	1	1
15 Safety pins	12	24	36



## INTRODUCTION

These guidelines are intended to assist the aquaculture industry in preventing accidents, incidents, injury, disease and death. They apply to all aquaculture operations in Malaysia, except those engaged in fish processing. Safety and health in processing operations is regulated under the Factories and Machinery Act (1967).

The Occupational Safety and Health Act, 1994, is applicable to aquaculture operations in Malaysia. The objectives of the Act are to:

- (a) secure the safety and health of persons at work against risks to safety or health arising out of the activities of persons at work;
- (b) protect persons at a workplace, other than persons at work, against risks to safety or health arising out of the activities of persons at work;
- (c) promote an occupational environment for persons at work that is adapted to their physiological and psychological needs;
- (d) provide the means whereby the associated occupational safety and health legislation may be progressively replaced by a system of regulations and approved industry codes of practice operating in combination with the provisions of the Act, designed to maintain or improve the standards of safety and health.

These guidelines are divided into sections starting with general requirements and progressing to specific requirements. In these guidelines, where the word *must* is used, it means that section of the guideline is contained within the Occupational Safety and Health Act (1994) and is a legal requirement.

In the event of any conflict or inconsistency between these guidelines and the provisions of the Act or any other written law pertaining to occupational safety and health, the provisions of the Act and those laws shall prevail.

Department of Occupational Safety and Health, Malaysia

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## 1. DEFINITIONS

In these guidelines,

*“aquaculture operations”*

means the farming of fish, including the propagation of fish seed and the raising of fish through husbandry during the whole or part of their life cycle. It may include any establishment, structure or facility employed in aquaculture, including but not limited to on-bottom, cage, hanging-net, pen, pond, pole or stick, raceway, raft or rope culture and hatchery operations. It includes any operation in support of, or in preparation for, any activity above.

*“contract of service”*

means any agreement, whether oral or in writing and whether express or implied, whereby one person agrees to employ another as an employee and that other agrees to serve his employer as an employee and includes an apprenticeship contract.

*“employee”*

means a person who is employed for wages under a contract of service on or in connection with the work of an industry to which this *Act* applies, and

- (a) who is directly employed by the principal employer on any work of, or incidental or preliminary to or connected with the work of, the industry, whether such work is done by the employee at the workplace or elsewhere;
- (b) who is under the supervision of the employer or his agent on work that is ordinarily part of the work of the industry; or
- (c) whose services are temporarily lent or let on hire to the principal employer by the person with whom the person whose services are so lent or let on hire has entered into a contract of service.

*“employer”*

means the immediate employer or the principal employer, or both, as defined under the *Act*.

*“gas cylinder”*

means a steel cylinder or bottle used for the storage and transport of compressed, dissolved or liquefied gases.

<i>“guardrail”</i>	means a railing of metal or wood, supported by stanchions, of strength and good construction.
<i>“hazard”</i>	means any thing, condition or process that may expose a person to risk of injury or occupational disease.
<i>“incident”</i>	includes an accident or other occurrence that resulted in or had the potential for causing property damage, injury or occupational disease.
<i>“lifejacket”</i>	means a device that, when worn correctly, will turn the wearer face-up when in the water, and that will keep the wearer in this position.
<i>“mobile equipment”</i>	includes a wheeled or tracked vehicle, engine or motor powered, together with attached or towed equipment.
<i>“musculo-skeletal injury (MSI)”</i>	means a disorder of the muscles, tendons, ligaments, joints, nerves, blood vessels or related soft tissue including a sprain, strain or inflammation, caused or aggravated by work.

## **2.0 DUTIES AND RESPONSIBILITIES**

### **2.1 Employer responsibilities**

2.1.1 Every employer and every self-employed person must ensure, so far as is practicable, the safety and health at work of all their employees.

Without limiting the above, this includes:

- (a) The provision and maintenance of plant and systems of work that are, so far as is practicable, safe and without risks to health;
- (b) The making of arrangements for ensuring, so far as is practicable, safety and absence of risks to health in connection with the use or operation, handling, storage and transport of plant and substances;
- (c) The provision of such information, instruction, training and supervision as is necessary to ensure, so far as is practicable, the safety and health at work of employees;
- (d) So far as is practicable, as regards and place of work under the control of the employer or self-employed person, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of the means of access to and egress from it that are safe and without risks;
- (e) The provision and maintenance of a working environment for employees that is, so far as is practicable, safe, without risks to health, and adequate as regards facilities for their welfare at work.

2.1.2 For the purposes of the above, “employee” includes an independent contractor engaged by an employer or a self-employed person and any employee of the independent contractor. However, the duties of an employer or a self-employed person, as set out above, extend to such an independent contractor and the independent contractor’s employees only in relation to matters over which the employer or self-employed person has control, or would have had control but for any agreement between them and the independent contractor to the contrary.

## **2.2 General duty**

2.2.1 Every employer and every self-employed person must conduct their undertaking in such a manner as to ensure, so far as is practicable, the safety and health of all employees and to ensure that other persons who may be affected thereby are not exposed to risks to their safety or health.

2.2.2 Despite the absence of a specific requirement under law, all work must be carried out without undue risk of injury or occupational disease to any person.

## **2.3 Supervisor responsibilities**

2.3.1 Every supervisor is required to ensure the safety and health of all employees under their direct supervision.

2.3.2 Without limiting the above, a supervisor is to ensure that the employees under their direct supervision are made aware of all known or reasonably foreseeable safety and health hazards in the area where they work. Also, a supervisor is to consult and cooperate with the safety and health committee or employee safety and health representative for the workplace.

## **2.4 Employee responsibilities**

Every employee must, while at work:

- (a) Take reasonable care for their own safety and health and for the safety and health of other persons who may be affected by their acts or omissions at work;
- (b) Co-operate with the employer or any other person in the discharge of any duty or requirement imposed on the employer or that other person by the *Act* or any regulation made thereunder;
- (c) Wear or use at all times any protective equipment or clothing provided by the employer for the purpose of preventing risks to the employee's safety and health;
- (d) Comply with any instruction or measure on occupational safety and health instituted by the employer or any other person by or under the *Act* or any regulation made thereunder; and
- (e) Report to the employer or supervisor any unsafe condition, defect in any equipment or device, or any other hazard, that the employee considers is likely to endanger the employee or any other person.

## **2.5 Duty to employees of other employers**

Every employer and every self-employed person must give to persons who are not their employees but who may be affected by their undertakings, information on undertakings that might affect their safety or health.

## **2.6 Prohibition to act against employees carrying out duties under the Act**

2.6.1 An employer must not dismiss an employee, injure an employee in their employment, or detrimentally alter an employee's position by reason only that the employee:

- (a) makes a complaint about a matter that they consider is not safe or is a risk to health;
- (b) is a member of a safety and health committee established pursuant to the *Act*;  
or
- (c) exercises any of their functions as a member of the safety and health committee or as an employee safety and health representative.

2.6.2 A trade union must not take any action against any of its members who, being an employee at a workplace, carries out (a) to (c) above.

## **3.0 SAFETY AND HEALTH PROGRAM REQUIREMENTS**

### **3.1 Safety policy requirement**

3.1.1 Every employer with more than 5 employees and every self-employed person must prepare a written safety and health policy statement. The policy statement must include:

- (a) a general policy with respect to the safety and health of employees at the workplace;
- (b) a description of the organization and arrangements for carrying out the policy;
- (c) a plan for it to be revised as often as appropriate.

3.1.2 The employer must ensure that the safety and health policy, and any revision of it, is brought to the notice of all of their employees.

### **3.2 Safety and health programs in small operations**

In operations with fewer than 40 employees, the employer is to initiate and maintain regular monthly meetings with employees for discussion of safety and health matters. The meetings are to be directed to matters concerning the correction of unsafe conditions and practices and the maintenance of co-operative interest in the safety and health of the workforce. A record of the meetings and the matters discussed is to be maintained.

### **3.3 Safety and health program**

3.3.1 An occupational safety and health program as outlined below is to be initiated and maintained by each employer having a workforce of 40 or more employees.

3.3.2 The occupational safety and health program is to be written and is to be designed to prevent injuries and occupational diseases. Without limiting the generality of the foregoing, the program is to include:

- (a) a statement of the employer's aims and the responsibilities of the employer, supervisors and employees, including:
  - (i) a general policy with respect to the safety and health of employees at the workplace;
  - (ii) a description of the organization and arrangements for carrying out the policy;
  - (iii) a plan for the revision, as appropriate, of the statement or policy;
- (b) provision for the regular inspection of premises, plant and substance, including equipment, work methods and work practices, at appropriate intervals, to ensure that prompt action is undertaken to correct any hazardous conditions found;
- (c) appropriate written instructions, available for reference by all employees, to supplement the requirements of the *Act* and provide written direction where required;
- (d) maintenance of records and statistics, including inspection reports, incident investigations, and regular calculation of injury rates;

- (e) provision for conducting periodic management meetings that include the review of safety and health activities and incident trends, and for the determination of necessary courses of action;
- (f) provision for the prompt investigation of incidents to determine the action necessary to prevent their recurrence;
- (g) provision for the instruction, training and supervision of employees in the safe performance of their work;
- (h) provision for a safety committee;
- (i) provision for the supply of adequate first aid equipment and service;
- (j) provision for the supply of adequate personal protective equipment and its maintenance;
- (k) provision for the safe transport, handling, use and disposal of harmful chemicals and substances;
- (l) provision for annual review of the function and adequacy of the written program.

## **4.0 SAFETY AND HEALTH OFFICER PROVISION**

### **4.1 Provision for safety and health officer**

Each aquaculture operation is to designate a competent person to act as a safety and health officer at the workplace.

### **4.2 Purpose of safety and health officer**

The safety and health officer shall be employed to ensure the due observance at the workplace of the provisions of the *Act* and any regulation made thereunder and the promotion of the safe conduct of work at the workplace.

### **4.3 Qualifications for safety and health officer**

The safety and health officer is required to have appropriate training and qualifications to ensure competency.

## **5.0 SAFETY AND HEALTH COMMITTEE PROVISION**

### **5.1 Safety and health committee**

At every workplace where 40 or more persons are employed, the employer must establish a safety and health committee.

### **5.2 Provision for an employee safety and health representative**

In operations where more than 9 but fewer than 40 persons are employed at the workplace, an employee safety and health representative is to be selected to carry out, to the extent practicable, the functions of the safety and health committee as set out in 5.3 (a) - (d).

### **5.3 Function of safety and health committee or representative**

5.3.1 Employers will consult the safety and health committee, or representative, with a view to the making and maintenance of arrangements that will enable the employer and the employees to co-operate effectively in promoting and developing measures to ensure the safety and health at the workplace of the employees, and in checking the effectiveness of such measures.

5.3.2 The safety and health committee or representative at a workplace will:

- (a) keep under review the measures taken to ensure the safety and health of persons at the workplace;
- (b) investigate any matter at the workplace:
  - (i) that a member of the committee or a person employed thereat considers is not safe or is a risk to health; and
  - (ii) that has been brought to the attention of the employer;
- (c) attempt to resolve any matter referred to in paragraph (b) and, if unable to do so, request the Director General, Department of Occupational Safety and Health, to undertake an inspection of the workplace for that purpose; and
- (d) have such other functions as may be prescribed.

## 6.0 INCIDENT NOTIFICATION AND INVESTIGATION

### 6.1 Notification of accident, dangerous occurrence, occupational poisoning or occupational disease

6.1.1 An employer is to report any accident, dangerous occurrence, occupational poisoning or occupational disease to the nearest office of the Department of Occupational Safety and Health.

6.1.2 Notification is required whenever any of the following occurs:

- (a) loss of life to any person;
- (b) bodily injury to any person so that the person is prevented from following their normal occupation for more than 4 days; or
- (c) serious damage to machinery or other property, or any dangerous occurrence.

*A dangerous occurrence includes*☺

- (a) bursting of a revolving vessel, wheel, grindstone or grinding wheel moved by mechanical power;
- (b) collapse or failure of a crane, derrick, winch, hoist, piling frame or other appliance used in raising or lowering persons or goods, or any part thereof (except breakage of chain or rope slings), or the overturning of a crane;
- (c) explosion or fire or failure of structure affecting the safety or strength of any room or place in which persons are employed, or of any machinery or plant contained therein;
- (d) sinking of a watercraft occupied by employees.

*See Appendix 1 for a list of DOSH offices.*

### 6.2 Employer investigations

6.2.1 An employer is to immediately undertake an investigation into the cause of any accident or incident that resulted in an injury to an employee requiring medical treatment.

6.2.2 An investigation is also required where the incident did not involve injury to an em-

ployee, or involved only minor injury that did not require medical treatment, but had a potential for causing serious injury.

### **6.3 Investigation process**

An investigation is to be carried out by persons knowledgeable about the type of work involved. As far as practicable, the investigation is to:

- (a) determine the cause or causes of the accident/incident;
- (b) identify the unsafe conditions, acts or procedures that contributed to the accident/incident, and
- (c) where unsafe conditions, acts or procedures are identified, recommend corrective action to prevent similar accidents/incidents from occurring.

### **6.4 Investigation report**

Investigation reports are to include the following information:

- (a) the date, time and place of the accident/incident;
- (b) the names and job titles of all persons injured in the incident;
- (c) the names of all witnesses;
- (d) a description of the incident;
- (e) an outline of the sequence of events that preceded the incident;
- (f) the identification of unsafe conditions, acts or procedures that contributed in any manner to the incident;
- (g) the recommended corrective actions required to prevent similar occurrences, and
- (h) the names of the persons involved in the incident investigation.

### **6.5 Follow-up action**

6.5.1 The employer is to undertake, without undue delay, any corrective action required to prevent recurrence of similar accidents/incidents.

6.5.2 The employer is also to provide a copy of the investigation report to the safety and health committee or representative, as applicable and forward a copy to the nearest DOSH office.

## **7.0 GENERAL PROVISIONS**

### **7.1 New workers**

7.1.1 No new worker is to carry out work involving the management of, attendance on, or proximity to, any machinery. It is the duty of the employer or supervisor to ensure that this is observed.

7.1.2 The above does not apply to a young person aged 14 years or older receiving a course of instruction at a Government technical school or other educational institution, or aged 15 or older if serving a recognized apprenticeship.

### **7.2 Reporting unsafe conditions**

7.2.1 Whenever a person observes what appears to be an unsafe or harmful condition, act or procedure, the person, if it is within their capabilities, will correct the condition or, as soon as possible, report it to a supervisor or to the employer.

7.2.2 The person receiving the report is to investigate the reported unsafe or harmful condition, act or procedure and ensure that any necessary corrective action is taken without delay.

### **7.3 Workplace inspections**

7.3.1 Employers are to ensure that regular inspections are made of all workplaces and plant, including buildings, structures, grounds, excavations, tools, equipment, machinery, work platforms, electrical installations and work methods and practices, at intervals that will prevent the development of unsafe working conditions.

7.3.2 Machinery, tools and equipment are to be inspected in accordance with the manufacturer's recommendations or in the absence of any manufacturer's recommendations, direction from a professional engineer.

### **7.4 Maintenance of buildings and structures**

The employer is to ensure that buildings and temporary or permanent structures that are part of their undertaking are capable of withstanding stresses likely to be imposed on them.

## **7.5 Maintenance of plant**

- 7.5.1 The employer is to ensure that all of the plant, including each machine, tool and piece of equipment in the workplace, is capable of safely performing the functions for which it is used and that it is operated in accordance with the manufacturer's recommendations and instructions and with safe work practices.
- 7.5.2 Machinery, tools and equipment are to be inspected, tested and maintained at the intervals and by the means specified by the manufacturer. They are to be maintained to the standards they are required to meet, or as specified by a professional engineer.
- 7.5.3 An unsafe machine, tool or piece of equipment is to be identified in a manner that will ensure it is not inadvertently returned to service until it has been made safe for use.

## **7.6 Musculoskeletal (MSI) injury prevention**

- 7.6.1 All work areas are to be arranged to minimize the likelihood of sprains, strains and musculoskeletal injuries.
- 7.6.2 All feed is to be stored in a manner that minimizes overhead lifting.
- 7.6.3 No employee is to be employed to lift, carry or move any load that is likely to cause injury to the employee.

## **7.7 Authorization to operate**

- 7.7.1 Only authorized persons may operate a machine, tool or piece of equipment.
- 7.7.2 A person is not to be authorized to operate a machine, tool or piece of equipment until the person has been adequately instructed and trained, and has demonstrated competency in safely operating it.

## **7.8 Transportation of employees**

If employees are required to travel on a private road, by boat or by other conveyance, the employer is to take reasonable measures to ensure the safe transit of the employees. This includes provision of a safe vehicle and a competent operator.

## **7.9 Confined space**

Employees are not to enter confined spaces, such as tanks, silos, barge holds or similar void spaces, unless safe work procedures have been developed to address all known or potential hazards in the space. These procedures should include testing the space to ensure adequate oxygen is present and that no harmful gas or vapour is present, a means for providing adequate ventilation and a means of monitoring the work. A safe means of rescuing crewmembers from confined spaces is also to be established.

*Refer to the Code of Practice on Confined Space for further information on confined space entry.*

## **7.10 Working alone**

7.10.1 Where an employee is required to work alone, the employer is to develop and implement a written procedure for checking the well-being of the employee.

7.10.2 The procedure is to include the time interval between checks and what to do if the employee cannot be contacted. In addition to checks at regular intervals, a check at the end of the work shift is to be done.

7.10.3 Employees required to work alone are to be instructed in the working alone procedure.

## **8.0 GENERAL SAFETY PROVISIONS**

### **8.1 Safe access**

There is to be a safe way of entering and leaving each workplace. Employees are not to use another way, if the other way is hazardous.

### **8.2 Safe work areas**

Work areas are to be arranged to allow the safe movement of people, equipment and materials.

### **8.3 Slipping and tripping hazard abatement**

- 8.3.1 Floors, platforms, ramps, stairs and walkways used by employees are to be maintained in a state of good repair and kept free of slipping and tripping hazards.
- 8.3.2 If a work process results in a liquid accumulating on the floor surface and the liquid creates a slipping or other hazard, floor drains or other suitable means are to be used to control the hazard.
- 8.3.3 Spills and waste material, resulting in tripping hazards to employees, are not to accumulate.

### **8.4 Material storage**

- 8.4.1 Material supplies and equipment are to be placed, stacked and stored in a stable and secure manner.
- 8.4.2 Where necessary, stacked material or containers are to be stabilized by interlocking, strapping or other effective means of restraint to ensure they do not create a hazard to employees.

### **8.5 Guardrails**

Areas accessible to employees are to have guards or guardrails installed where the risk of falling creates a hazard to the employee.

### **8.6 Protection against fire**

The employer is to take adequate precautions against fire. There are to be provided and maintained adequate equipment and procedures to extinguish a fire and employees required to use these means and procedures are to be adequately trained in them. There are to be adequate escape routes in case of fire.

### **8.7 Extreme temperatures**

- 8.7.1 Open flames or other high-temperature or extremely low-temperature sources or surfaces that could cause injury are to be positioned or shielded to prevent employees from contacting them.
- 8.7.2 If an extreme-temperature source is necessarily exposed due to the work process, safe work procedures are to be established, and employees are to be instructed in those procedures.

## **9.0 GENERAL HEALTH PROVISIONS**

### **9.1 Maintenance of clean facilities**

Every workplace will be kept in a clean and sanitary state.

### **9.2 Protection from the elements**

Where practicable, provision will be made for suitable protection of employees from exposure to the elements. Such means may include roof shelters and wind breaks for protection against sun, rain and wind.

### **9.3 Ventilation**

Effective ventilation is to be provided and maintained for all areas of the workplace.

### **9.4 Temperature**

Where practicable, provision will be made for maintaining the workplace temperature to ensure reasonably comfortable conditions for employees.

### **9.5 Illumination**

Every work area is required to have adequate lighting for the tasks performed in that work area.

### **9.6 Indoor air quality**

9.6.1 Indoor air quality is to be maintained so that air quality is safe for employees.

9.6.2 Where employees report concerns with air quality to the employer, the employer will, without delay, investigate the complaint.

9.6.3 The employer is to control employee exposure to workplace environmental tobacco smoke by prohibiting smoking within indoor workplaces, restricting smoking to designated smoking areas or by implementing other equally effective means.

### **9.7 Lunch and washroom facilities**

Appropriate lunch and washroom facilities are to be provided at all workplaces.

## **9.8 Provisions for personal care**

Employees are to be provided:

- (a) adequate and suitable accommodation for clothing not worn during working hours; and arrangements for drying clothing that becomes wet due to work activities;
- (b) an adequate supply of potable drinking water; and
- (c) suitable facilities for washing, which are to be kept in a clean condition.

## **10.0 CHEMICAL AND HARMFUL PRODUCT SAFETY**

### **10.1 General requirements**

10.1.1 Where an employee is or may be exposed to a chemical or biological substance that may cause an adverse health effect, the employer is to ensure that the identity of the substance, its possible effects on employee safety and health, and any precautions required for the safety and health of the employee are clearly indicated by labels, chemical safety data sheets (CSDSs), placards, signs, tags or other similar means.

10.1.2 The employer is to develop and implement written procedures for safely handling, using, storing and disposing of chemicals and substances to prevent exposure by any route that could cause an adverse health effect. Procedures will include emergency and cleanup procedures in the event of a spill or release of the substance.

10.1.3 Supervisors and employees are to be trained in and are to follow the established procedures for safely handling, using, storing and disposing of the chemicals and substances, including emergency and cleanup procedures to be used in the event of a spill or release of the substance.

*Refer to Use and Standard Exposure Chemical Hazardous to Health and Chemical Packaging and Labeling Regulation for more information.*

## **10.2 Flammable substances**

All sources of ignition are to be eliminated or effectively controlled when a flammable gas or a flammable liquid is handled, used or stored.

## **10.3 Handling gas cylinders**

10.3.1 A compressed gas cylinder is not to be hoisted by a sling or magnet, dropped, subjected to impact, handled by the regulator or used as a roller or work support.

10.3.2 A compressed gas cylinder is to be secured to prevent falling or rolling during storage, transportation and use, and, where practicable, it is to be kept in an upright position.

## **10.4 Use of internal combustion engines indoors**

If mobile equipment powered by an internal combustion engine is operated indoors or in an enclosed work area, the engine is to be adequately serviced and maintained to minimize the concentration of air contaminants in the exhaust. The work area is also to be assessed to determine the potential for exposure of employees to harmful levels of exhaust components.

## **10.5 Emergency washing facilities**

The employer is to ensure that appropriate emergency washing facilities are provided in any work area where an employee's eyes or skin may be exposed to harmful or corrosive materials or other materials that may burn or irritate or in other circumstances where emergency wash facilities may be required.

## **10.6 Asbestos**

If an employee is or may be exposed to potentially harmful levels of asbestos, the employer is to develop and implement an exposure control plan that includes risk identification, assessment and control, employee and supervisor education and

training, and written safe work procedures.

## **11.0 PERSONAL PROTECTIVE EQUIPMENT**

### **11.1 Employee responsibility**

An employee is responsible for providing clothing needed for protection against the natural elements.

### **11.2 Employer responsibility**

11.2.1 The employer is to assess the workplace to determine the personal protective equipment required for the work at that workplace.

11.2.2 The employer is responsible for providing, at no cost to the employee, all items of personal protective equipment required, other than that which is the responsibility of the employee. The equipment that the employer must provide includes work gloves, safety footwear and safety headgear, where necessary.

### **11.3 Instruction**

The employer is to ensure that an employee who requires personal protective equipment is adequately instructed in the correct use, limitations and maintenance of the equipment.

### **11.4 Supervisor responsibility**

The supervisor is to ensure that appropriate personal protective equipment is available to employees, properly used when required, and properly cleaned, inspected, maintained and stored.

### **11.5 Employee responsibility**

Every employee who is required to use personal protective equipment is to use the equipment in accordance with training and instruction provided and to inspect the equipment before use.

### **11.6 Selection and use**

Personal protective equipment is to be selected and used in accordance with the manufacturer's instructions and recognized standards, and is to provide effective protection. It is to be maintained in good working order and in a sanitary condi-

**11.7 Safety eyewear**

An employee is to wear properly fitting safety eyewear appropriate to the conditions of the workplace and to hazards they are exposed to that may injure or irritate the eyes.

**11.8 Safety headgear**

Safety headgear is to be worn by employees in any area there is risk to the head from flying, thrown or falling objects.

**11.9 Footwear**

An employee's footwear is to be of a design, construction and material appropriate to the protection required.

**11.10 Buoyancy equipment**

11.10.1 An employee employed under conditions that involve a risk of drowning is to wear a personal flotation device (PFD) or lifejacket with sufficient buoyancy to keep the employee's head above water.

11.10.2 The above does not apply if other acceptable safety measures are in place that protect employees from the risk of drowning, or if the water is too shallow to allow the PFD or lifejacket to function effectively.

11.10.3 Buoyancy equipment is to meet acceptable standards.

**11.11 Respiratory protection**

11.11.1 The employer is to provide appropriate respiratory protective equipment if an employee is or may be exposed to harmful concentrations of air contaminants.

11.11.2 The respiratory protective equipment is to be selected, used, inspected, cleaned, maintained and stored to ensure it is effective for its intended use.

11.11.3 Employees are to be instructed in the safe use, limitations and maintenance of respiratory equipment.

### **11.12 Fall protection**

The employer is to ensure that a fall protection system is used when work is being done at a place where a fall from a height creates a hazard to an employee.

### **11.13 Noise exposure limits**

11.13.1 The employer is to ensure that an employee is not exposed to harmful noise levels.

11.13.2 Employees in the following areas are to assume to be exposed to excess noise levels, unless proven otherwise, and are to use adequate hearing protection:

- (a) working in generating stations;
- (b) operating mobile equipment;
- (c) operating portable equipment powered by an internal combustion motor, such as a backpack style weed cutter.

### **11.14 Noise control and hearing conservation program**

If noise in the workplace exceeds harmful levels, the employer is to identify potential noise exposed areas and measure the noise exposure. Where practicable, provide engineered noise control, post notice of noise hazard areas, provide hearing protection, conduct hearing tests and provide employees education and training on the noise hazards in the workplace.

## **12.0 PLANT, TOOLS, MACHINERY AND EQUIPMENT**

### **12.1 Safeguarding**

The employer is to ensure that machinery and equipment is fitted with adequate safeguards that:

- (a) protect an employee from contact with hazardous parts;
- (b) ensure an employee cannot access a hazardous point of operation, and
- (c) safely contain any material ejected by the work process that may hazardous to an employee.

## **12.2 Operating controls**

12.2.1 Powered equipment, other than portable powered tools or mobile equipment is to have:

- (a) start and stop controls located within easy reach of the operator;
- (b) all controls and switches labeled with the functions they serve;
- (c) controls positioned or shielded to prevent inadvertent activation.

12.2.2 Portable powered tools and mobile equipment are to have operating controls conforming to an appropriate standard.

## **12.3 Rotating hazards**

Where rotating parts, such as friction drives, shafts, couplings and collars, set-screws and bolts, keys and keyways, and projecting shaft ends are exposed, they are to be effectively guarded against contact by employees.

## **12.4 Welding**

12.4.1 Welding, cutting and similar processes are to be carried out according to acceptable standards and manufacturer's instructions and recommendations for the equipment being used.

12.4.2 Welding on a building or structure, equipment, pipeline or pressure containment system is to be done according to the standard or code specified by the authority having jurisdiction.

## **12.5 Ladder use**

12.5.1 Ladders are to be used in a safe manner.

12.5.2 A portable ladder is to be inspected before use. A ladder with a hazardous defect is to be removed from service.

12.5.3 When in use, a portable single or extension ladder is to be placed so that the horizontal distance from the base to the vertical plane of support is approximately 1/4 of the ladder length between supports.

- 12.5.4 The lower ends of the ladder side rails are to rest on a firm and level base and the upper support of the side rails are to be on a bearing surface strong enough to safely withstand the applied loads.
- 12.5.5 A ladder is to be of sufficient length to project approximately 1 m (3 feet) above the level of the upper landing to which it provides access.
- 12.5.6 A portable ladder is to be positioned, and if necessary secured, to ensure stability during use.
- 12.5.7 An employee is not to work from the top 2 rungs of a portable single or extension ladder, or the top 2 steps of a step ladder, unless permitted by the manufacturer.
- 12.5.8 A ladder is not to be used as a scaffold component, nor as a horizontal walkway, ramp or work platform support.

## **12.6 Cranes and hoists**

- 12.6.1 A crane or hoist is to be erected, dismantled, operated, adjusted, inspected and maintained as specified by the manufacturer's manual, or by a professional engineer.
- 12.6.2 A crane or hoist is to be operated only by a qualified, competent person who has been instructed and authorized to operate the equipment. Prior to operating the equipment, an employee will demonstrate competency.

## **12.7 Rigging inspection**

Slings and other rigging attachments are to be visually inspected before use on each shift, and defective equipment is to be immediately removed from service.

## **12.8 Mobile equipment**

- 12.8.1 The operation, inspection, repair, maintenance and modification of mobile equipment is to be carried out in accordance with the manufacturer's instructions, or in the absence of such instructions, in accordance with good engineering practice.

12.8.2 The operator of mobile equipment is to operate the equipment safely, maintain full control of the equipment at all times, and comply with the laws governing the operation of the equipment.

12.8.3 A supervisor will not knowingly permit an employee to operate mobile equipment if it could create an undue hazard to any person.

## **12.9 Electrical equipment**

12.9.1 An employee who installs, alters or maintains electrical equipment is to be qualified to carry out such work.

12.9.2 All electrical installations are to be properly grounded.

## **12.10 De-energization**

The maintenance and repair of machinery or equipment is only to be carried out when the power source has been shut off, de-energized and effectively secured to prevent inadvertent startup. Where it is essential that equipment remain operational during maintenance, a procedure is to be established to prevent injury from contact with moving or energized parts and crewmembers are to be instructed in these procedures.

## **12.11 Conveyors**

12.11.1 A belt conveyor is to have accessible nip points of spools and pulleys guarded to prevent contact by an employee.

12.11.2 Where the moving parts of a screw-type conveyor create a hazard to employees, they are to be effectively guarded from contact by an employee.

12.11.3 If the feed point for a conveyor cannot be guarded because of the work process, any employees required to be in the area are to have and use suitable devices to prevent them from contacting moving parts of the conveyor system.

## **13.0 WORK ON OR AROUND WATER**

### **13.1 Wharfs, docks and mooring floats**

13.1.1 Fixed ladders are to be provided at each dock for access to and egress from the water.

13.1.2 Appropriate lifesaving equipment is to be provided and maintained for the rescue of an employee in danger of drowning. The lifesaving equipment should be readily available for use.

### **13.2 Wharf curbs and barriers**

A substantial curb or rail is to be installed along the open sides of each float, dock, wharf, pier and similar place where mobile equipment is used.

### **13.3 Vessel operation**

13.3.1 All vessels used in aquaculture operations are to be suitable for their intended use and are not to be overloaded.

13.3.2 All vessel operators are to be instructed and are to demonstrate competency in safe vessel operation prior to being authorized to operate a vessel.

### **13.4 Rescue boat**

A suitable boat is to be available and ready for immediate use when employees are employed in situations where a boat may be necessary for rescue or evacuation.

### **13.5 Diving**

#### **13.5.1 Supervision of diving operations**

Where diving operations take place, a diving supervisor is to be appointed. Diving supervisors are responsible for the proper instruction of employees under their direction and control, and for ensuring that diving operations are carried out without undue risk.

### **13.5.2 Diver medical certification**

Each diver is responsible for obtaining a current medical certification, from a physician knowledgeable and competent in diving medicine, before commencing diving operations.

### **13.5.3 Diving apparatus training**

Before diving begins, a diver is to be thoroughly trained in the theory and use of the diving apparatus that the diver will be using.

### **13.5.4 Dive procedures**

13.5.4.1 Every employer is to ensure that a set of safe diving procedures for the diving operations are prepared and that the safe diving procedures are kept at the dive site, readily available to all crewmembers.

13.5.4.2 All scuba and surface supply diving is to be done within the limits specified in accepted dive tables.

### **13.5.5 Emergency assistance**

13.5.5.1 The employer is to ensure that assistance can be rendered to divers at all times when diving operations are in progress, including in cases of emergency.

13.5.5.2 When diving is in progress, the dive site is to have the address and contact phone number of the nearest facilities with hyperbaric chambers capable of providing emergency treatment and the locations and phone numbers of the nearest hospital.

### **13.5.6 Scuba diving equipment**

Every scuba diver is to use all of the following equipment appropriate to the diving conditions: a scuba unit complete with a quick-release harness and a submersible pressure gauge; a face mask and swimming fins; a suitable knife; a depth gauge; an exposure suit, if necessary; an inflatable buoyancy device; a weight belt with quick-release buckle; an underwater watch; and an underwater light (when

night diving).

### **13.5.7 Diving site warning markers**

When any diving activity is taking place, warning devices indicating diving is in progress are to be displayed.

### **13.5.8 Surface supply diving**

Surface supply diving operations are to meet the following requirements:

- (a) The employer is to ensure a suitable diving compressor is provided that is equipped with an appropriate air filtering and regulating system;
- (b) The employer is to ensure the compressor filter is maintained so that clean respirable air is delivered to the divers;
- (c) The air intake for the compressor is to be positioned so that only clean air is drawn into the compressor. It is not to be positioned so that engine exhaust or other harmful contaminants can not enter the air intake system.

### **13.5.9 Free Diving**

No free diving is to be done where there is a risk of entrapment or entanglement such that the diver can not immediately surface unobstructed.

## **14.0 RESCUE AND FIRST AID**

### **14.1 Evacuation and rescue**

14.1.1 The employer is to assess the workplace to determine if the need to rescue or evacuate employees may arise. If so, the employer is to develop written procedures outlining the risk and the procedures to be taken for rescue and evacuation.

14.1.2 Employees required to participate in rescue or evacuation are to be adequately trained. The training is to be appropriate to the type of rescue or evacuation identified in the assessment. Records of this training are to be maintained.

### **14.2 First Aid**

14.2.1 The employer is to supply first aid equipment, supplies, facilities and services appropriate to the number of employees and risk involved at the workplace.

- 14.2.2 First aid equipment, supplies and facilities are to be kept clean, dry and readily available for immediate use.
- 14.2.3 Every employee is to be made aware of the location of first aid and how to call the attendant.
- 14.2.4 The employer is to maintain, at the workplace, a record of all injuries and diseases reported or treated.
- 14.2.5 The employer is to develop procedures for transporting injured employees to medical aid, including employees requiring stretcher transport.
- 14.2.6 If water transport would be needed to transport an injured employee, a suitable boat is to be readily available during work operations. The boat is to be able to accommodate an employee on a stretcher and to protect the employee from the natural elements.

## 15.0 APPENDIX 1 - DOSH OFFICES

DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH (DOSH) OFFICES  
 DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH (HQ)  
 JABATAN KESELAMATAN DAN KESIHATAN PEKERJAAN MALAYSIA  
 KEMENTERIAN SUMBER MANUSIA, ARAS 2,3 DAN 4, BLOK D3, PARCELD  
 PUSAT PENTADBIRAN KERAJAAN PERSEKUTUAN  
 62502 WILAYAH PERSEKUTUAN PUTRAJAYA  
 Tel: 03-88865000 Fax: 03-88892338, 03-888892339, 03-888892351

<p>Director          Department of Occupational Safety and Health          Tingkat 7, Wisma Tractors, Jalan SS16/1,          Subang Jaya, 75400 Selangor Darul Ehsan          Tel: 03-5638 0340 Fax: 03-5638 9159</p>	<p>Director          Department of Occupational Safety and Health          Federal Territory, Tingkat 17, Menara PERKESO          281, Jalan Ampang, 50534 Kuala Lumpur          Tel: 03-4257 6066 Fax: 03-4257 2991</p>
<p>Director          Department of Occupational Safety and Health          (Perak)          Tingkat 2, Bangunan Persekutuan,          Jalan Panglima Bukit Gantang Wahab          30000 Ipoh, Perak Darul Ridzuan          Tel : 05-254 9711 Fax: 05-255 5219</p>	<p>Director          Department of Occupational Safety and Health          (Penang)          Tingkat 17-18, MB Tower, 5050 Jalan PagarLuar          12000 Pulau Pinang          Tel: 04-332 2258 Fax: 04-323 7261</p>
<p>Director          Department of Occupational Safety and Health          (Johore)          Tingkat 3, Blok B, Wisma Persekutuan          Jalan Air Molek, 80534 Johor Bahru, Johor          Tel: 07-224 3076/224 093 Fax: 07-224 2667</p>	<p>Director          Department of Occupational Safety and Health          (Sarawak)          Tingkat 12, Bangunan Sultan Iskandar,          Jalan Simpang Tiga, 93300 Kuching, Sarawak          Tel: 082-242 257 Fax: 082-259 846</p>
<p>Director          Department of Occupational Safety and Health          (Sabah)          Lot No. D7-4, Tingkat 7Blok D, Bangunan KWSP          49, Jalan Karamuning, 88534 Kota Kinabalu,          Sabah          Tel: 088-235 855 Fax: 088-233 367</p>	<p>Director          Department of Occupational Safety and Health          (Kedah/Perlis)          Tingkat 3, Wisma Persekutuan          Jalan Kampong Baru, 05334 Alor Setar          Kedah Darul Aman          Tel : 04-730 8081 Fax: 04-732 9659</p>
<p>Director          Department of Occupational Safety and Health          (Negeri Sembilan/Malacca)          Tingkat 11, Wisma Persekutuan          Jalan Datuk Abdul Kadir, 70000 Seremban          Negeri Sembilan Darul Khusus          Tel : 06-761 2828 Fax: 06-764 3143</p>	<p>Director          Department of Occupational Safety and Health          (Pahang)          Tingkat 3, Wisma Persekutuan, Jalan Gambut          25000 Kuantan, Pahang Darul Makmur          Tel: 09-5161014 Fax: 09-5161215</p>
<p>Director          Department of Occupational Safety and Health          (Terengganu)          Tingkat 3, Wisma Persekutuan          Jalan Sultan Ismail, 20200 Kuala Terengganu          Terengganu Darul Iman          Tel: 09-622 5288 Fax: 09-623 6654</p>	<p>Director          Department of Occupational Safety and Health          (Kelantan)          Tingkat 9, Wisma Persekutuan, Jalan Bayam          15534 Kota Bharu, Kelantan Darul Naim          Tel: 09-748 2875 Fax: 09-746 2809</p>

**16.0 APPENDIX 2 - FIRST AID KIT REQUIREMENTS**

	Box A with up to 10 persons	Box B with 11-50 persons	Box C with more than 50 persons
Contents of factory first-aid box or cupboard			
9. Small individual medicated or Unmedicated sterilized dressings, for fingers	6	12	24
10. Medical- sized individual medicated or Unmedicated sterilized dressings, for hands and feet	3	6	12
11. Large individual medicated or Unmedicated sterilized dressings, for Other injured parts	3	6	12
12. Assorted adhesive wound dressing	12	24	36
13. Triangular bandages	2	4	8
14. (i) Roller bandages, 1 inch	6	9	12
(ii) Roller bandages, 2 inch	6	9	12
15. Adhesive plaster	" A Sufficient supply "		
16. Absorbent sterilized cotton wools in ½ oz. packets or Cotton- wool strip contained in cotton-wool dispenser	6	6	6
9. Suitable splints and wool or other material for padding	" A Sufficient supply "		
10. Approved eye ointment or eye drops	" A Sufficient supply "		
16. Individual sterilized eye pads in separate sealed packets	2	4	8
17. Rubber or pressure bandage	1	1	1
18. A two per cent alcoholic solution of Iodine, or a one per cent aqueous solution of gentian violet in a stoppered 2 oz. bottle	1	1	1
A bottle of sal volatile with the dose and mode of administration indicated on the label	1	1	1
19. Blunt-nosed surgical scissors	1	1	1
20. Safety pins	12	24	36